U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Introduction to Renewable Energy Project Finance Structures

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Project Finance Structures

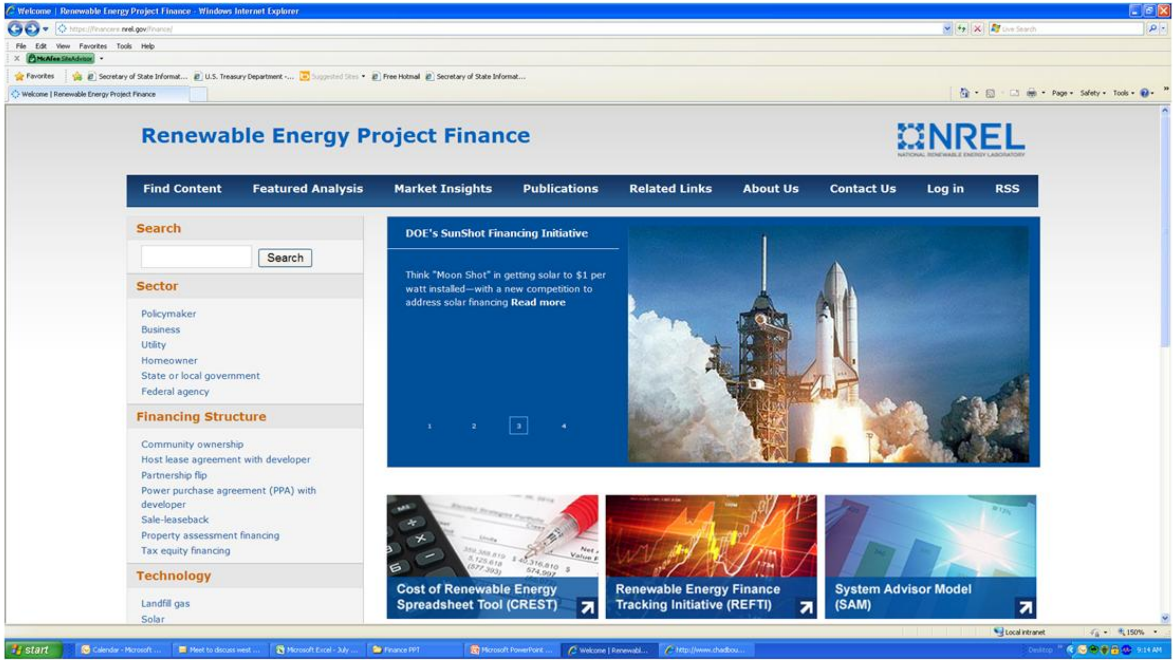
- Why is this topic relevant?
  - Increase your understanding of the project finance process with a "behind the scenes" look at common structures used when financing renewable energy projects with a Power Purchase Agreement (PPA).
  - Introduce terminology.
  - Project finance structures can influence certain terms in the PPA.
  - May need to novate contracts, provide consent and/or agree to assignment of documents given that ownership can change over the life of the project.

Milbank presentation to FUPWG* – 4/12/12

- Lots of excellent details on taxes, incentives, and project structures.
- http://www1.eere.energy.gov/femp/pdfs/fupwg_spring12_regante.pdf

NREL's Renewable Energy Finance portal

- Sources information from a number of public and private sources
- https://financere.nrel.gov/finance/



*Federal Utility Partnership Working Group

Traditional Renewable Energy Project Development Framework

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Project
- Site identified
- Project approved

Fund
- Appropriations
- ESPC* or other mechanism

Build
- RFP
- Select Developer/EPC Contractor*
- Project Installed

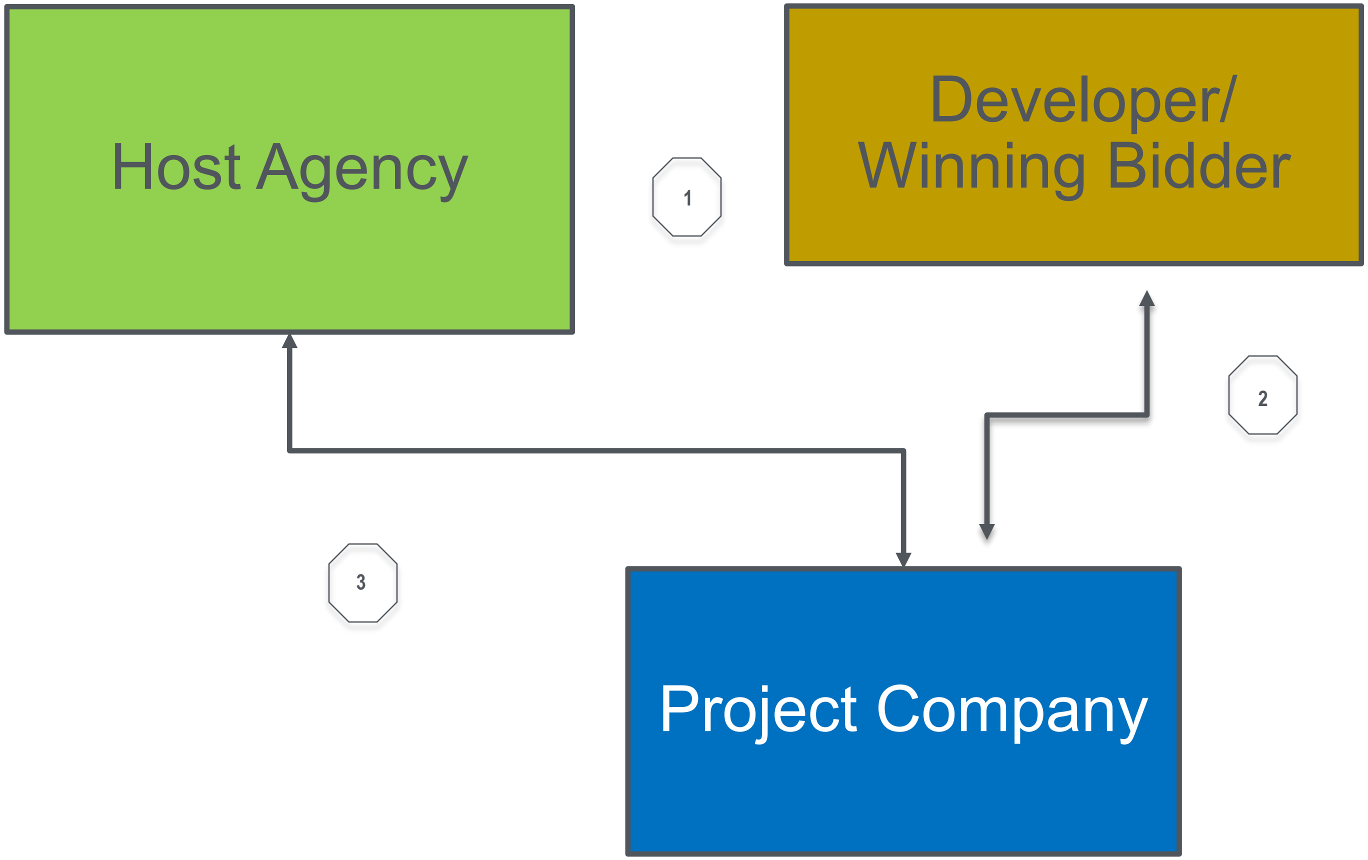
Own and Operate
- Ownership resides with host agency
- Staff or outside entity for O&M*

* Energy Services Performance Contract
* Engineering, Procurement and Construction
* Operations and Maintenance

Emergence of PPA-based Financing for Renewable Energy Projects

Project	• Site identified • Project approved
Contract	• RFP for a PPA provider • Select PPA provider • Sign license, easement or other land use agreement (LUA)
Fund and Build	• Third party investors fund project • Developer manages construction
Own and Operate	• Third party investors will own project • O&M subcontracted out by project owners
Host Purchase of Electricity	• Year one price per kWh fixed • Annual escalator • End of term options

Introducing the Project Company



Example Process Overview

1. Developer selected.
2. Developer creates Project Company.
3. Contract documents either 1) signed with the Project Company, 2) novated to Project Company, or 3) some other arrangement?

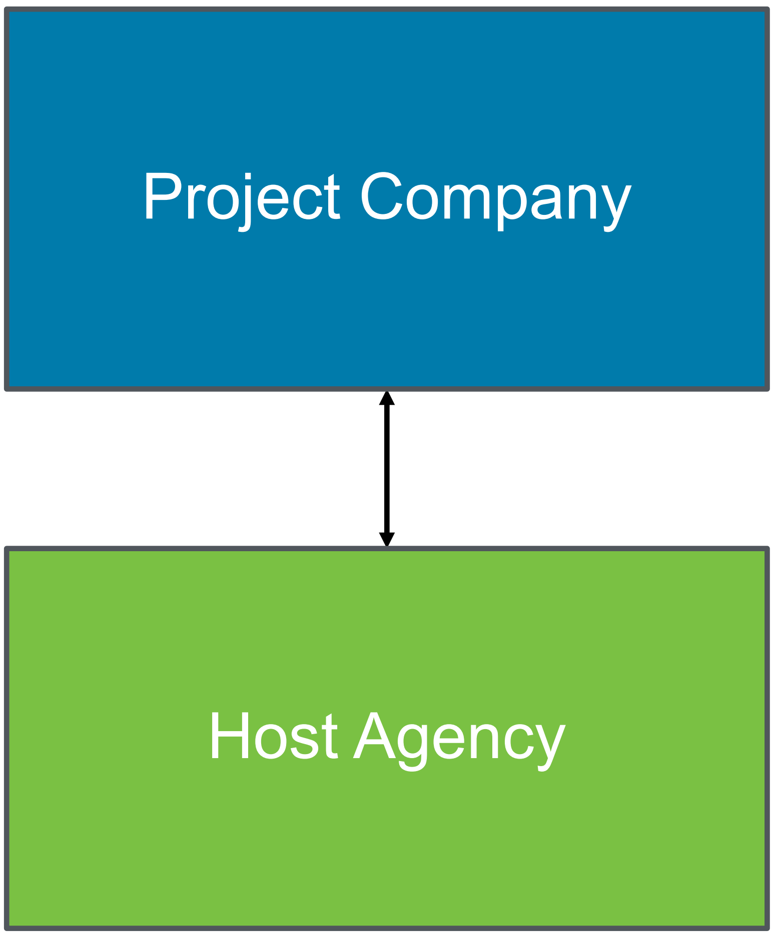
The Project Company

- The Project Company is the legal owner of the project
- Often referred to as an SPV or an SPE
- Limited Liability

Project Company

Project Company Relationships

PPA Transaction



Relationships

- Significant contracts and assets at the Project Company level.
  - Project assets/cash flows, equity investments, contracts, insurance, warrantees and reserves.
- Solar Developer(s)
- EPC Contractor
- Investors
- Lenders
- Lawyers, Consultants, et.

Sale of the Project Company

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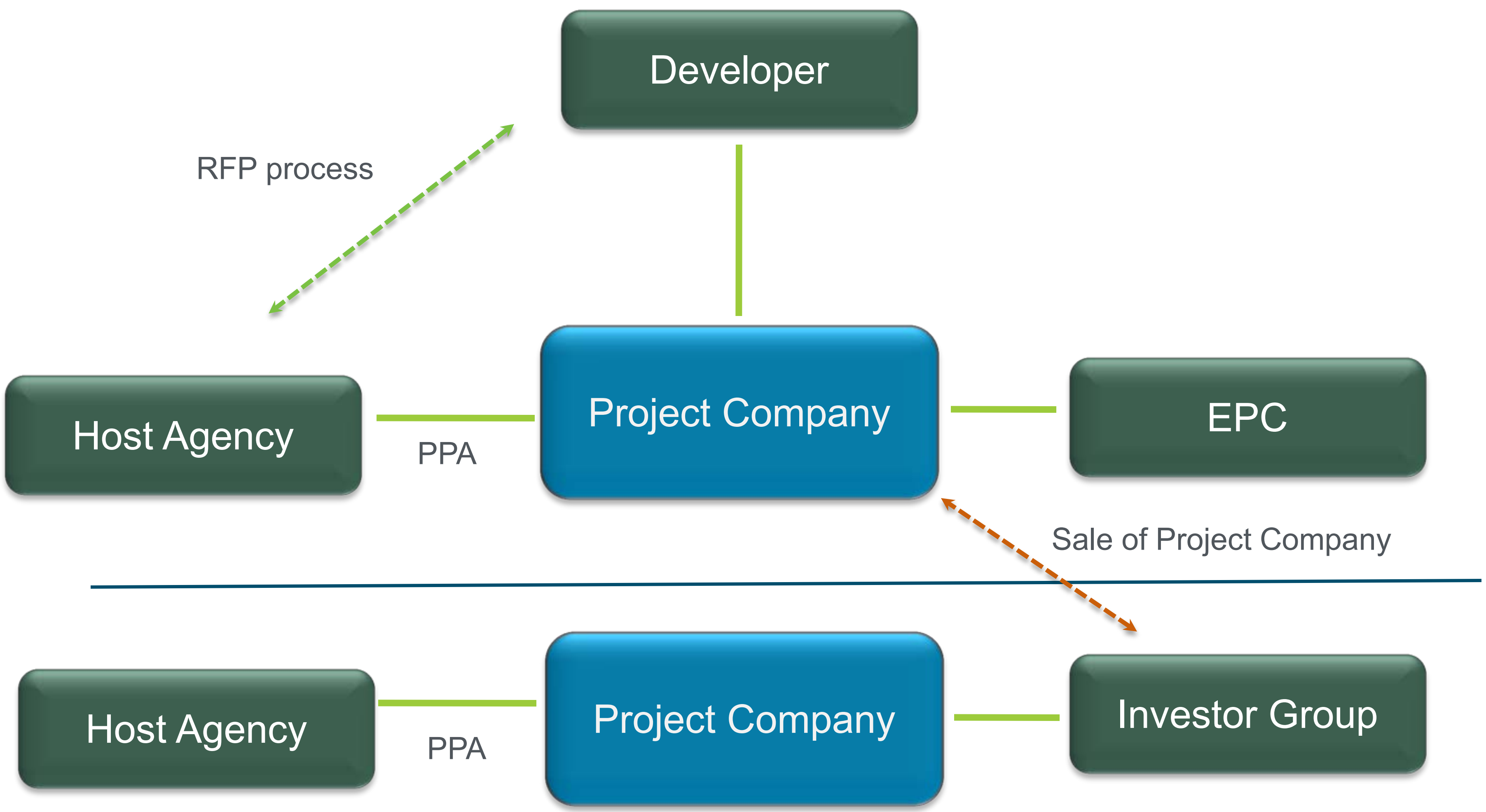
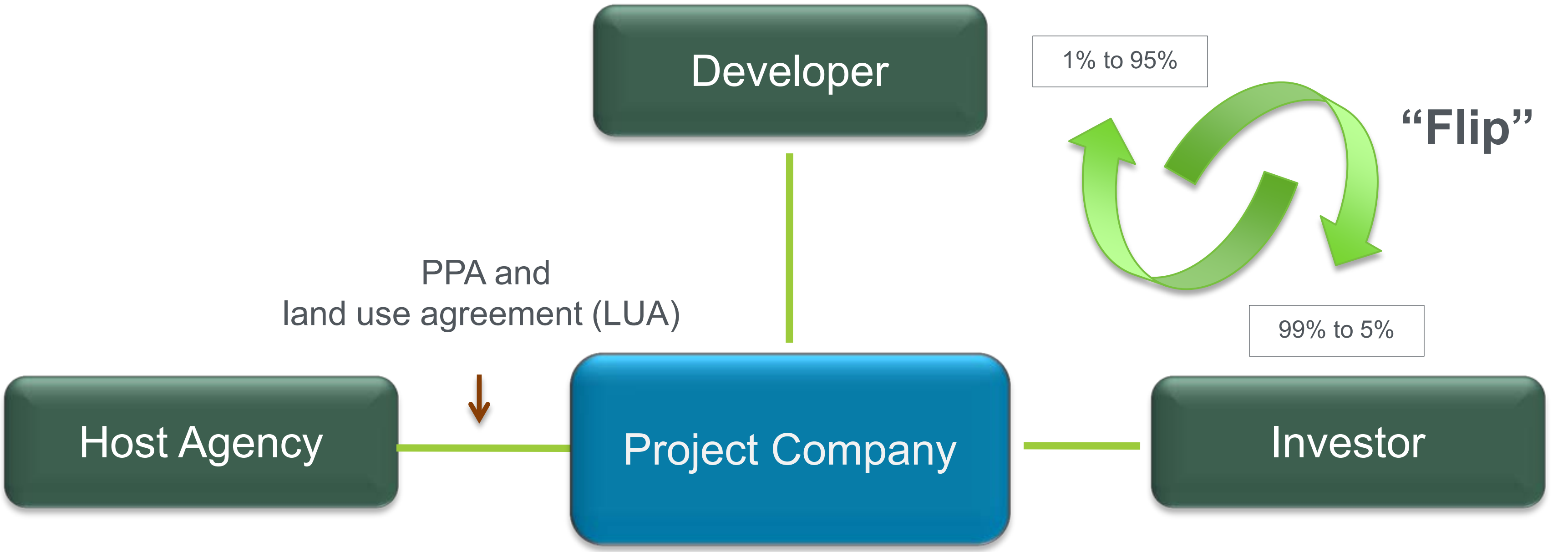


Project Finance Structures

- Partnership Flip
- Sale Leaseback
- Inverted Lease

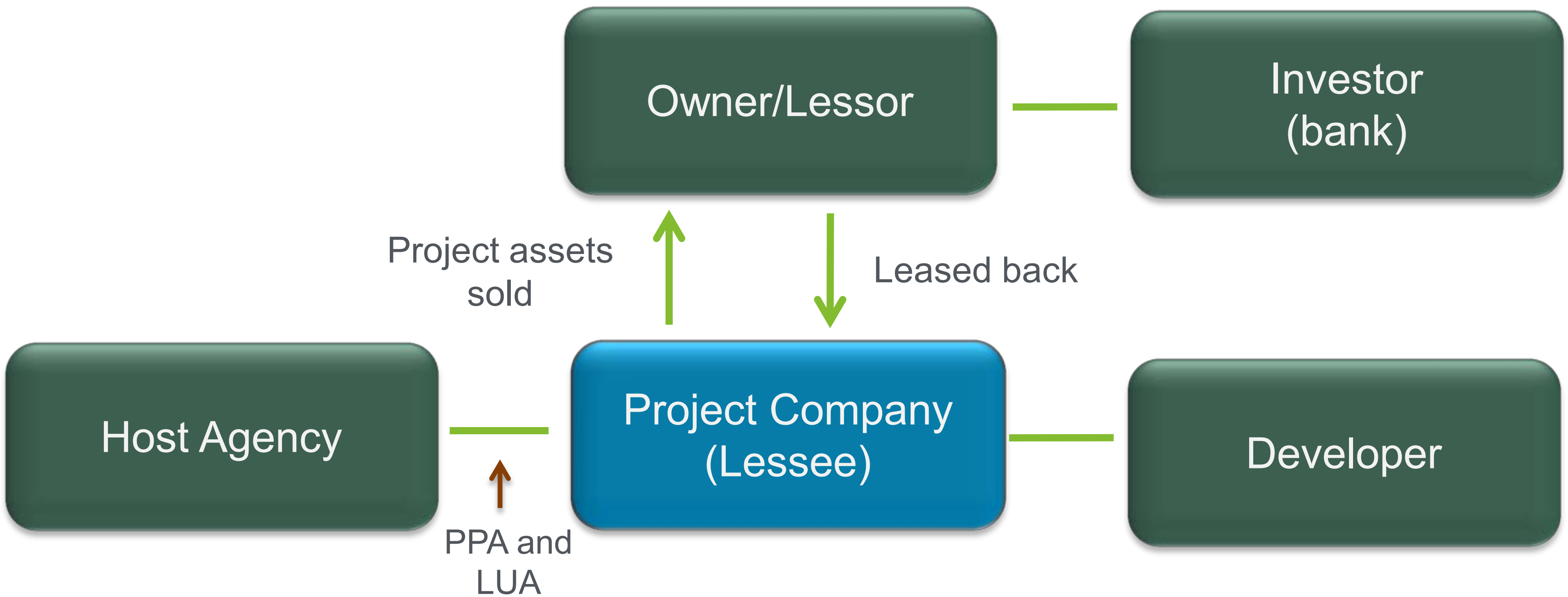
Project Company

Partnership Flip



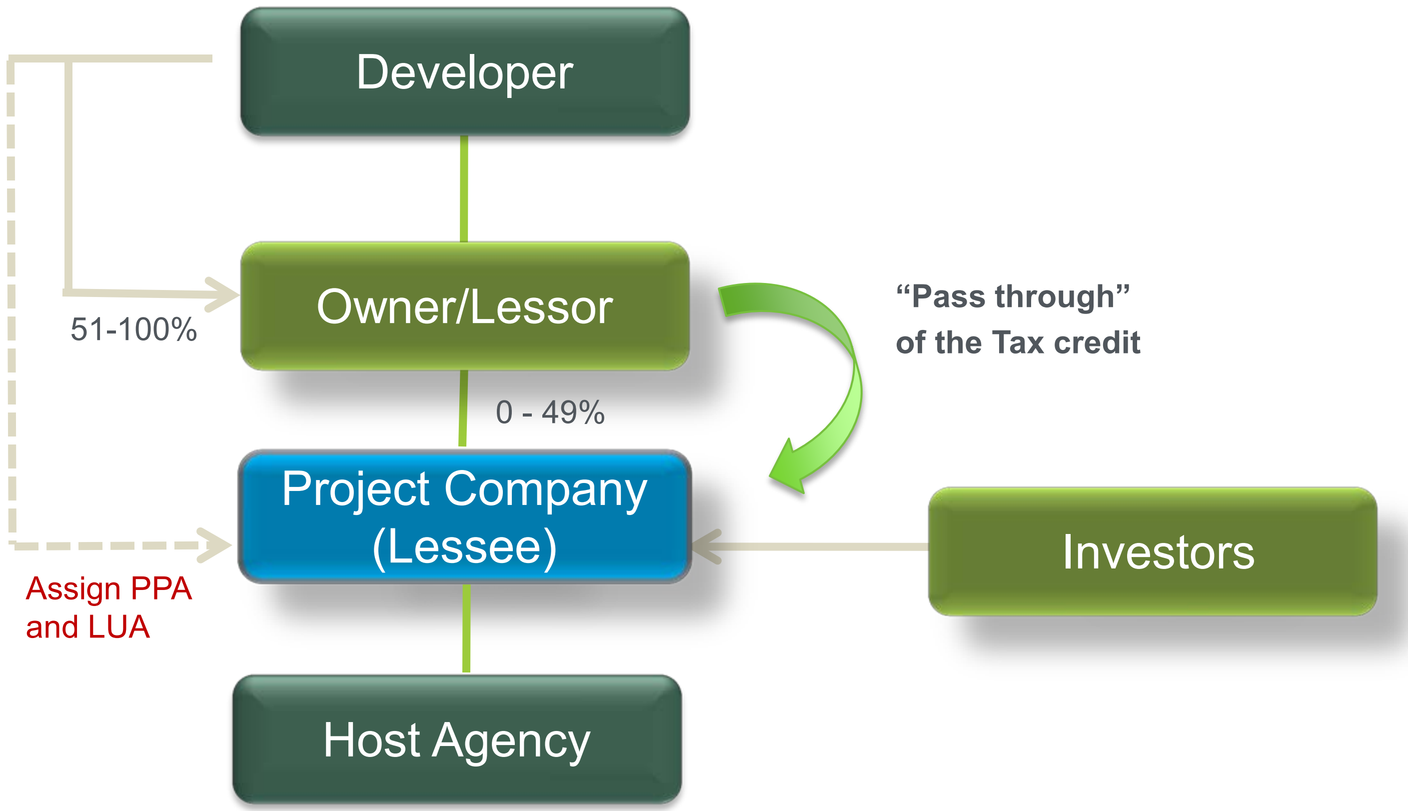
- Equity Investor in the transaction before project is placed in service.
- Investor initially majority owner then *flips* to minority owner.
- After flip, developer can buy out investor.
- Relatively straightforward exit for investor.
- Flip can be time-based or yield-based.

Sale Leaseback



- Assets are sold and leased back rather than the company itself.
- Investor has 90 days after project is placed in service to enter in to the transaction.
- PPA and site relationship remain with Project Company during lease.
- Exit less straightforward for investor; lessee needs to re-purchase assets.

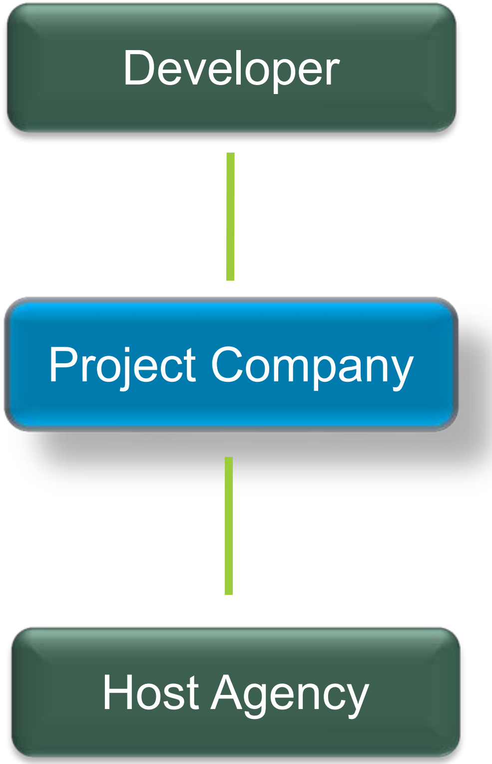
Inverted Lease



- Separates tax credit from depreciation.
- Investor in before placed in service date.
- Easy exit for investor at end of lease term.

Percentages are indicative

Inverted Lease after Investor Exit



Conceptual rather than actual legal representation of structure after investor exit.

How a Structure is Chosen

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Developer – Investor Continuum

Investors

- Target return
- Short or long term investment
- Ease of exit
- Accounting treatment
- Depreciation benefits
- Familiarity with structure
- Degree/types of risks to assume
- Relationship with developer

Developer

- Access to capital to fund projects
- Cost to buyout investor
- Timing of return on investment
- Ability to monetize depreciation
- Amount of risk willing to absorb
- Number of potential investors/partners

***The return – and returns – of tax equity for US renewable projects. 2011.**
Bloomberg New Energy Finance
www.bnef.com/WhitePapers/download/54

Summary

- Third party financing has dramatically impacted the market.
- Complex financial structures are involved in financing PPA-based renewable energy projects.
- Legal ownership of projects and assets can and will likely change throughout the life of the project.
- Financing structures have the potential to influence PPA terms with the Host Agency.

Contact Information

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